



# Economic and Social Council

Distr.: General  
5 March 2010

Original: English  
English and French only

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## Economic Commission for Europe

### Inland Transport Committee

### World Forum for Harmonization of Vehicle Regulations

#### Working Party on Passive Safety

#### Forty-seventh session

Geneva, 17–21 May 2010

Item 8 of the provisional agenda

#### Regulation No. 11 (Door latches and hinges)

## Proposal for the 04 series of amendments to Regulation No. 11

### Submitted by the expert from the European Commission\*

The text reproduced below was prepared by the expert from the European Commission in order to extend the scope to vehicles in categories N<sub>2</sub> and N<sub>3</sub> and add requirements on steps, handholds and running boards. It is based on a document without symbol (GRSP-46-40) distributed during the forty-sixth session of the Working Party on Passive Safety (GRSP). The modifications to the existing text of Regulation No. 11 are marked in bold or strikethrough characters.

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\* In accordance with the programme of work of the Inland Transport Committee for 2006–2010 (ECE/TRANS/166/Add.1, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

## I. Proposal

### *Contents*

*Insert a new Annex 7, to read:*

“... ”

**Annex 7 Requirements concerning the access to and exit from the doors of the driver's compartment of vehicles of category N<sub>2</sub> having a maximum mass exceeding 7,5 tonnes and of category N<sub>3</sub>.**”

*Paragraph 1., amend to read:*

“1. Scope

This Regulation applies to vehicles of categories M<sub>1</sub> and N 1/ with respect to ~~latches and door retention components such as hinges and other supporting means on~~ **their** doors, which can be used for the entry or exit of the occupants.”

*Paragraph 2.1., amend to read:*

“2.1. “Approval of a vehicle” means the approval of a vehicle type with regard to **its doors.**”

*Insert new paragraphs 2.2.6.to 2.2.7., to read:*

**“2.2.6. construction and fitting requirements of the running boards and steps as regards vehicles not covered by Annex 7;**

**2.2.7. position and geometrical characteristics of the access steps and the handholds as regards vehicles mentioned in Annex 7.”**

*Paragraph 3.1., amend to read:*

“3.1. The application for approval of a vehicle type with regard to **its doors** shall be submitted by the vehicle manufacturer or by his duly accredited representative.”

*Paragraph 3.2.2., amend to read:*

“3.2.2. a technical...door retention components **and, if applicable, of the running boards, steps and handholds.**”

*Paragraph 4.2., amend to read:*

“4.2. An approval... first two digits **(04)** shall indicate the...”

*Insert new paragraphs 5.3. to 5.3.5., to read:*

**“5.3. Running boards and steps (construction and fitting requirements). X/**

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X/ Contracting Parties have the option to not apply the requirements of paragraph 5.3. for certain vehicle types of category M<sub>1</sub> and N<sub>1</sub> which would be covered by paragraph 5.3.4. or 5.3.4.1. and also to fully exclude the application of vehicle types of categories N<sub>2</sub> and N<sub>3</sub>. Other Contracting Parties of the Agreement are not obliged to recognize type approvals based on any of these exemptions or exclusions. The Contracting Parties shall notify others by announcement of their choice to the WP.29 Secretariat and further state any exemption or exclusion clearly on each approval communication certificate issued.

- 5.3.1. The design characteristics of the vehicle must permit entry to and exit from it in perfect safety. Doors, entries and exits must be such that they can be used easily and without danger
- 5.3.2. Vehicles of category N<sub>2</sub> with a maximum mass exceeding 7,5 tonnes and N<sub>3</sub> are deemed to satisfy the requirements as mentioned in paragraph 5.3.1. above if they comply with the prescriptions of Annex 7.
- 5.3.3. The wheel hub, rims and other parts of the wheel shall not be deemed to be running boards or steps for the purpose of this Regulation, except where reasons relating to construction or use preclude the fitting of running boards or steps elsewhere on the vehicle.
- 5.3.4. In vehicles of categories M<sub>1</sub>, N<sub>1</sub> and N<sub>2</sub> with a maximum mass not exceeding 7,5 tonnes if the floor entrance to the passenger compartment of such vehicles is more than 600 mm above the ground, the vehicle must have one or more running boards or steps.
- 5.3.4.1. However, for off-road vehicles, in conformity with the definitions given in the Consolidated Resolution on the Construction of Vehicles (R.E.3) (TRANS/WP.29/78/Rev.1/Amend.2, Annex 7/Rev.2), such a distance from the ground may be increased up to 700 mm.
- 5.3.5. The running boards or steps must be constructed in such a way as to preclude the risk of slipping.”

Paragraph 6., amend to read:

- “6. Performance requirements **applicable to vehicles in categories M<sub>1</sub> and N<sub>1</sub>**”

Paragraph 7., amend to read:

- “7. Test procedures **applicable to vehicles in categories M<sub>1</sub> and N<sub>1</sub> only**”

Paragraph 13. to 13.7., amend to read:

“13. TRANSITIONAL PROVISIONS

- 13.1. As from the official date of entry into force of the 03 series of amendments, no Contracting Party applying this Regulation shall refuse to grant approval **to vehicle types of category M<sub>1</sub> and N<sub>1</sub>** under this Regulation as amended by the 03 series of amendments.
- 13.2. Until 12 August 2012, Contracting Parties applying this Regulation shall continue to grant approvals to **vehicle types of category M<sub>1</sub> and N<sub>1</sub>** which comply with the requirements of this Regulation as amended by the ~~preceding 02~~ series of amendments.
- 13.3. As from 12 August 2012, Contracting Parties applying this Regulation shall grant approvals only **to vehicle types of category M<sub>1</sub> and N<sub>1</sub> which comply with** the requirements of this Regulation as amended by the 03 series of amendments.
- 13.4. No Contracting Party applying this Regulation shall refuse national or regional type-approval of **vehicle types of category M<sub>1</sub> and N<sub>1</sub> which comply with the requirements of this Regulation as amended by the 03 series of amendments and to which the requirements of the 04 series of amendments do not apply.**
- 13.5. Until 12 August 2012, no Contracting Party applying this Regulation shall refuse national or regional type-approval of **vehicle types of category M<sub>1</sub>**

and N<sub>1</sub> which comply with the requirements of this Regulation as amended by the 02 series of amendments.

- 13.6. As from 12 August 2014, Contracting Parties applying this Regulation may refuse first national or regional registration (first entry into service) of a vehicle of category M<sub>1</sub> or N<sub>1</sub> which does not meet the requirements of the 03 series of amendments to this Regulation.
- 13.7. As from 12 August 2014, approvals to this Regulation shall cease to be valid, except in the case of vehicle types of category M<sub>1</sub> and N<sub>1</sub> which comply with the requirements of this Regulation as amended by the 03 series of amendments.”

*Insert new paragraphs 13.8. to 13.14., to read:*

- “13.8. As from the official date of entry into force of the 04 series of amendments, no Contracting Party applying this Regulation shall refuse to grant approval to vehicle types of category M<sub>1</sub> and N under this Regulation as amended by the 04 series of amendments.
- 13.9. Until [1 November] 2012, Contracting Parties applying this Regulation shall continue to grant approvals to vehicle types of category M<sub>1</sub> and N<sub>1</sub> which comply with the requirements of this Regulation as amended by the 03 series of amendments.
- 13.10. As from [1 November] 2012, Contracting Parties applying this Regulation shall grant approvals only to vehicle types of category M<sub>1</sub> and N which comply with the requirements of this Regulation as amended by the 04 series of amendments.
- 13.11. No Contracting Party applying this Regulation shall refuse national or regional type-approval of vehicle types of category M<sub>1</sub> and N which comply with the requirements of this Regulation as amended by the 04 series of amendments. However, this provision is not applicable with respect to vehicle types of categories N<sub>2</sub> and N<sub>3</sub> for those Contracting Parties which have chosen to fully exclude these categories vehicles (in accordance with the footnote of paragraph 5.3.).
- 13.12. Until [1 November] 2014, no Contracting Party applying this Regulation shall refuse national or regional type-approval of vehicle types of category M<sub>1</sub> and N<sub>1</sub> which comply with the requirements of this Regulation as amended by the 03 series of amendments and to which the requirements of the 04 series of amendments apply.
- 13.13. As from [1 November] 2014, Contracting Parties applying this Regulation may refuse first national or regional registration (first entry into service) of a vehicle of category M<sub>1</sub> or N to which the requirements of the 04 series of amendments apply and which does not meet such requirements. This provision is not applicable for those Contracting Parties which have chosen to not incorporate the provisions of paragraph 5.3. for vehicles of categories M<sub>1</sub> and N<sub>1</sub> and which have chosen to fully exclude the application of vehicle types of categories N<sub>2</sub> and N<sub>3</sub> (in accordance with the footnote of paragraph 5.3.).
- 13.14. As from [1 November] 2014, approvals to this Regulation shall cease to be valid, except in the case of vehicle types of category M<sub>1</sub> and N which comply with the requirements of this Regulation as amended by the 04 series of amendments. This provision is not applicable for vehicle types

of categories M<sub>1</sub> and N<sub>1</sub> to which the requirements of the 04 series of amendments do not apply.”

Annex 1, amend to read:

“...with regard to **the doors** pursuant to Regulation No. 11

Approval No...”

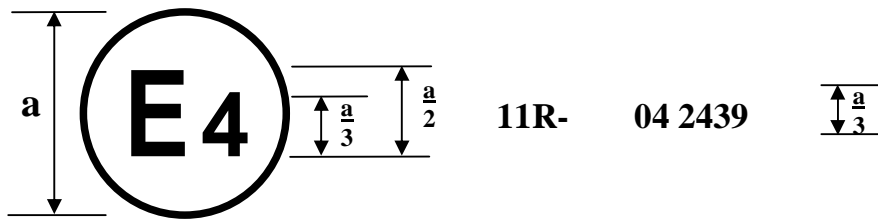
Annex 2, amend to read:

”Annex 2

ARRANGEMENTS OF APPROVAL MARKS

Model A

(See paragraph 4.4. of this Regulation)

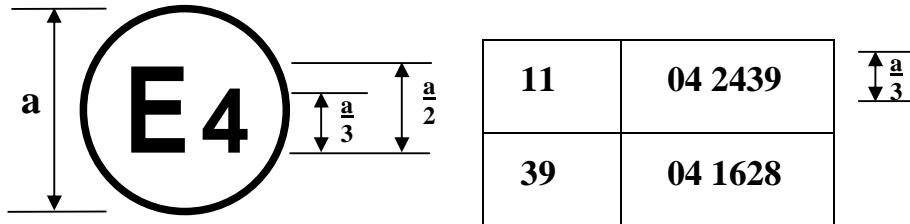


a = 8 mm min.

The above approval mark affixed to a vehicle shows that the vehicle type concerned has, with regard to door latches and door retention components, been approved in the Netherlands (E 4) pursuant to Regulation No. 11, under approval number 042439. The first two digits of the approval number indicate that the approval was granted in accordance with the requirements of Regulation No. 11 as amended by the 04 series of amendments.

Model B

(See paragraph 4.5. of this Regulation)



a = 8 mm min.

The above approval mark affixed to a vehicle shows that the vehicle type concerned has been approved in the Netherlands (E 4) pursuant to Regulation No. 11 as amended by the 04 series of amendments and Regulation No. 39, as amended by the 04 series of amendments. 1/”

*Insert a new Annex 7, to read:*

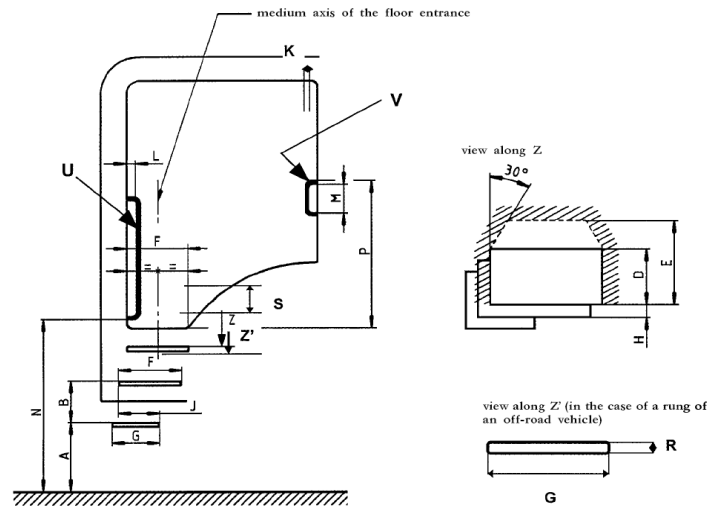
**“Annex 7**

**REQUIREMENTS CONCERNING THE ACCESS TO AND EXIT FROM THE DOORS OF THE DRIVER'S COMPARTMENT OF VEHICLES OF CATEGORY N<sub>2</sub> HAVING A MAXIMUM MASS EXCEEDING 7,5 TONNES AND OF CATEGORY N<sub>3</sub>**

- 1. Access steps to the driver's compartment (see figure 7-1)**
- 1.1. The distance (A) from the ground to the upper surface of the lowest step, measured with the vehicle in running order on a horizontal and flat surface, shall not be more than 600 mm**
  - 1.1.1. However, for off-road vehicles, in conformity with the definitions given in the Consolidated Resolution on the Construction of Vehicles (R.E.3) (TRANS/WP.29/78/Rev.1/Amend.2, Annex 7/Rev.2), that distance (A) may be increased up to 700 mm.**
- 1.2. The distance (B) between the upper surfaces of the steps shall be not more than 400 mm. The vertical distance between two subsequent steps shall not vary by more than 50 mm. The last requirement shall not apply to the distance between the uppermost step and the cab floor.**
  - 1.2.1. However, for off-road vehicles, in conformity with the definitions as mentioned above (see 1.1.1.), this latter figure may be increased up to 100 mm.**
- 1.3. In addition, the following minimum geometrical specifications shall be fulfilled:**
  - (a) step depth (D): 80 mm**
  - (b) step clearance (E) (include step depth): 150 mm**
  - (c) step width (F): 300 mm**
  - (d) width of the lowest step (G): 200 mm**
  - (e) step height (S): 120 mm**
  - (f) transversal offset between steps (H): 0 mm**
  - (g) longitudinal overlap (J) between two subsequent steps in the same flight, or between the uppermost step and the cab floor: 200 mm.**
- 1.3.1. However, for off-road vehicles (see paragraph 1.1.1.) the value (F) may be reduced to 200 mm.**
- 1.4. The lowest step may be designed as a rung, if this is necessary for reasons relating to construction or use, and in the case of off-road vehicles, in conformity with the definitions as mentioned above. In such case the rung depth (R) shall be at least 20 mm.**
  - 1.4.1. Rungs of round cross section are not permitted.**
- 1.5. While getting down from the driver's compartment the position of the uppermost step shall be easily found out.**
- 1.6. The upper surface of the steps shall be non-slip. In addition, steps exposed to the weather and the dirt during driving shall have adequate run-off (draining surface).**

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2. Access to handholds to the driver's compartment (see figure 7-1)
    - 2.1. One or more suitable handrails and handholds or other equivalent holding devices shall be provided for the access to the driver's compartment.
      - 2.1.1. The handrail(s) or handholds or equivalent holding devices must be positioned in such a way that they can be easily grasped and do not obstruct access.
      - 2.1.2. A maximum discontinuity of 100 mm in the holding area of the handrails or handholds or equivalent holding devices may be allowed (for instance intermediate fixation).
      - 2.1.3. In the case of access with more than two steps the handrails, handholds or equivalent holding devices shall be located so that a person may support himself at the same time at three points (with two hands and one foot or with two feet and one hand).
      - 2.1.4. Except in the case of a stairway, the design and positioning of the handrails, handholds and equivalent holding devices must be such that operators are encouraged to descend facing the cab.
      - 2.1.5. The steering wheel may be considered as a handhold.
    - 2.2. The height (N) of the lower edge of at least one handrail or handhold or equivalent holding device, measured from the ground with the vehicle in running order on a horizontal and flat surface, shall not be more than 1,850 mm.
      - 2.2.1. However, for off-road vehicles (see paragraph 1.1.1.), such distance (N) may be increased up to 1,950 mm.
      - 2.2.2. If the floor of the driver's compartment has a height from the ground greater than "N", this height shall be assumed as "N".
      - 2.2.3. In addition, the minimum distance (P) of the upper edge of the handrail(s) or handholds or equivalent holding devices from the floor of the driver's compartment shall be:
        - (a) handrail(s) or handholds or equivalent holding devices (U) 650 mm,
        - (b) handrail(s) or handholds or equivalent holding devices (V) 550 mm.
  - 2.3. The following geometrical specifications shall be fulfilled:
    - (a) gripping dimension (K): 16 mm minimum 38 mm maximum,
    - (b) length (M): 150 mm minimum,

- (c) **clearance to vehicle components (L): 40 mm minimum with open door.**



**Figure 7-1**

3. **In the case of a sloped floor of the driver's compartment the required measurements shall be made from a horizontal plane passing through a point which is given by the intersection of the front edge of the floor with a vertical plane through the centre of the step immediately below and which is perpendicular to the longitudinal medium plane of the vehicle.”**

## II. Justification

This proposal incorporates provisions including vehicles of categories  $N_2$  and  $N_3$  in order to ensure that they comply with general requirements on the safety of doors, without however submitting them to the test procedures for assessing strength of door locks and hinges as foreseen for vehicles in categories  $M_1$  and  $N_1$ . The text is based on that of EC Directives 98/90/EC and 2001/31/EC.

The proposal introduces requirements for steps and handholds to aid the access to the driver's compartment in those cases where the floor height exceeds a certain limit. The rules provide for consistent safety for occupants entering and exiting the vehicle under many kinds of conditions. Application of rules on step height and handholds is not only for the benefit of drivers and other vehicle users, but also for vehicle manufacturers that will be able to offer an appropriate answer to national health and safety laws and thereby gain acceptance for certain vehicles to be put in service appropriately.

Due to the complex nature of the transitional provisions that were introduced in previous series of amendments, a specific new approach was needed. Initially the proposal was aimed at complying with the template as laid down in document TRANS/WP.29/1044. However, due to many comments received during the forty-sixth session of GRSP, paragraph 13 is now based on informal document No. GRSP-46-33 tabled by the expert of the International Organization of Motor Vehicle Manufacturers (OICA).

The above mentioned informal document mentions that old provisions should remain stated in paragraphs 13.1. to 13.5., but with added clarifications as to which vehicle categories are applicable. This means that old provisions are more or less repeated for



clarification purposes. Normally, paragraphs 13.6. and 13.7. would not have to be changed, however they had to be slightly modified in order to address the issues as explained in informal document GRSP-45-14, tabled by the expert from the Czech Republic (concerning the phase out time which was deemed insufficient). The new paragraphs 13.8. to 13.14. repeat the same structure of the original provisions, (mirrored from paragraphs 13.1. to 13.7.), but now concerning the new 04 series of amendments.

Paragraph 13.11. ensures the mandatory acceptance of all new type-approvals according to the 04 series by all Contracting Parties (in line with the mirrored provisions of paragraph 13.4. for the 03 series), however, this is not the case for Contracting Parties which have chosen to apply the exemption clause (footnote of paragraph 5.3.).

Paragraphs 13.13. and 13.14. allow for continued acceptance for those vehicles that are not affected by the newly introduced requirements. It therefore automatically allows for continued acceptance of 03 series approvals by Contracting Parties which have chosen to apply the exemption clause.

Paragraphs 13.7. with the provision that approvals cease to be valid after a certain date is carried over from the 03 series of amendments and should therefore be retained. Some specific countries which may choose to accept very old approvals of Regulation No. 11 are usually not Contracting Parties to the Agreement. The same applies for the new paragraph 13.14. The dates as mentioned in paragraph 13.9, 13.10 and 13.12 to 13.14 may be aligned with dates as proposed by the expert from Japan.

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